



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 21 1988

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Justifying Alternative Methods To Prove Mechanical Integrity Pursuant To 40 CFR Section 146.8(d) - Underground Injection Control Guidance No. 61

FROM: Michael B. Cook, Director *Michael Cook*
Office of Drinking Water (WH-550)

TO: Water Management Division Directors
EPA Regions I-X

Introduction and Content

Any State, industry, well owner/operator, etc., may request approval to use alternate methods to prove injection well mechanical integrity in accordance with 40 CFR Section 146.8(d). This guidance explains what must be included in such a request, to whom the request should be submitted, and how the approval process will proceed. The request must be accompanied by a justification for the method's use and include, at a minimum, the following information:

- I. A narrative description of the mechanical integrity test (MIT) method with a discussion of:
 - A. When it is to be applied;
 - B. How it is supposed to work (include operational techniques);
 - C. The criteria used to judge the test's success;
 - D. The sensitivity of the test method (e.g., an estimate of the size of leak which can be detected by this method); and
 - E. The data, analyses, and other documentation supporting the above.
- II. A schematic diagram which shows the well construction to which the MIT method will be applied.

- III. A presentation of examples of how the proposed method has been used in the past to detect leakage (Part 1 of mechanical integrity), or fluid movement (Part 2 of mechanical integrity), or both. The examples must provide a comparison of results between an approved MIT method and this proposed method. The comparison should be between wells which have failed mechanical integrity as well as between wells which have demonstrated mechanical integrity.

Final approval will be considered for those alternative test proposals which demonstrate equivalence with an approved MIT. If at the time of submission a demonstration can not be made, the proposed alternative will be considered for interim approval if a protocol is provided which outlines how the demonstration of equivalence is to be accomplished.

The examples must include:

- A. Depiction of the geologic setting;
 - B. Any logs utilized, their analysis, and interpretation. The logs submitted should be complete showing the well's entire length and appropriate log headings should also be provided; and
 - C. Reasons for wanting to use this method, why other MIT methods are inappropriate, and an explanation of the advantages of this method versus approved methods.
- IV. A discussion of the method's limitations (i.e., weaknesses), if any, should be included.
- V. The UIC Program Director or the equivalent of at least the Vice-President of a company (if the alternative has been supplied by a well owner or operator) must certify that all information, results and methodologies submitted are accurate to the best of his/her knowledge.

The applicant should refer to this guidance and the section of the regulations under which the approval is being sought when preparing the justification. Promotional material will be accepted only for the descriptive portion of the justification. Technical articles, when properly referenced and identified may be submitted to prove the effectiveness of the method proposed.

Approval Procedure

The applicant should submit the justification through the State or, if the request is made from a State Program directly implemented by EPA (DI), through the EPA Regional UIC Program Director, as appropriate. A State UIC Program Director, after his approval, shall submit the justification for the MIT to the Director of the Office of Drinking Water (ODW) at EPA Headquarters, and concurrently to the appropriate EPA Regional UIC Program Official.

Primacy States administering their UIC program under §1425 of the Safe Drinking Water Act will fall into one of two categories. In most cases, the state will have agreed in their Memorandum of Agreement or Understanding (MOA or MOU) to seek EPA approval before allowing the use of new alternative MITs. The approval process in these states should follow the submission procedure outlined above. In §1425 States without such agreements, the procedure is essentially the same, but the standard for approval may be slightly different. In these states, the Agency will evaluate whether the approval of an alternative would compromise the effectiveness of the State's program, rather than evaluating the efficacy of the individual test. If, after consultation, the Region and the Director, ODW, determined that approval of the test would render the State's program ineffective, such notice would be sent to the State.

The Director, ODW, and the EPA Regional UIC Program Official, after consultation, will refer the justification to the appropriate EPA MIT Workgroup member listed in Table 1, who will review the justification for completeness. If the alternative proposal submitted is judged complete by the EPA MIT Workgroup member, the alternative will be forwarded to the full EPA MIT Workgroup for review and processing. An incomplete justification will be returned to the Primacy State Program Director indicating why the justification was considered deficient, what is necessary for improvement, and the time permitted to the applicant to submit more information.

Once the MIT alternative is found acceptable by the EPA MIT Workgroup, it will be forwarded to the Director, ODW, in the form of a Federal Register notice for final review and approval or denial. If the Director, ODW, grants approval, the alternative will be published in the Federal Register. The notice will indicate a period of time open for public comment. If significant comment is received and accepted by EPA, a revised notice will be published at a later date. If no significant comments are received, the alternative MIT will go into effect on the date specified in the original notice. If the proposal is denied, notification will be sent to the State Program Director, and the appropriate EPA Region, with an explanation of why it was denied and what must be done to consider the alternative further.

Table 2 is a flow chart which illustrates the process outlined above. Generally, it requires approximately six (6) months from the time a complete application, with all necessary information is received by the Regional MIT Workgroup representative, until a final decision on the proposal is made.

Other Information

Presentations of alternative MIT methods may be given before the EPA MIT Workgroup as long as they provide the information requested in the justification and utilize appropriate visual aids and/or handouts for discussion purposes.

If a presentation is desired or requested, adequate time should be allowed to schedule the presentation at a regularly scheduled MIT Workgroup meeting. EPA MIT Workgroup meetings are usually held three to four times per year at or near an EPA regional office, laboratory, or EPA Headquarters, Washington, D.C.

Questions regarding this guidance should be directed to Bruce J. Kobelski, Chairman of the EPA MIT Workgroup, S. Stephen Platt, EPA Region III Workgroup representative, or the MIT Workgroup member in the appropriate EPA Region.

Attachments

TABLE 1: MECHANICAL INTEGRITY TEST WORKGROUP

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TABLE 2: PROCESS FOR APPROVING ALTERNATIVE MITs

